means of iron peroxide introduced with the aid of a basic slag.
The foregoing conclusions are nevertheless placed in question owing to the fact that the combustion effort of the agents depends on the influence of change of temperature, and that it becomes more powerful with rising temperature for carbon than for all the remaining agents. Through high temperature it becomes possible for the carbon to exercise its affinity for oxygen, and be removed from the iron before or simultaneously with the remaining agents.
Conclusion as to the behaviour of the reducing agents under the circumstances described is therefore only able to be furnished by experiment.
((?.) ACTION OF IRON PEROXIDE ON THE REDUCING AGENTS IN MOLTEN IRON, WITHOUT THE AID OF EXTRANEOUS HEAT.
For experimental proof of the behaviour of iron peroxide on the reducing agents present in molten iron, practical experiments were made on a large scale in the year 1902 and later in the south Russian works of the Donetz-Jurjowka Company. Pure iron ore (nearly chemically pure iron peroxide, which was well dried, but nevertheless not further preheated), was introduced into the transport ladle, and molten pig iron from the blast furnace, or from, the mixer or cupola, was allowed to flow on to the same. It demonstrated that a reaction actually always ensued. It began as soon as it wan in the ladle, and, indeed, mostly in the place on which the falling stream of pig iron impinged a little slag formed, which apparently brought some iron oxide into solution. The dissolved iron peroxide, however, acted forthwith on the'silicon in the iron, it produced fresh melted iron silicate, whereby the quantity of slag rapidly increased. It acted on the iron ore in the ladle, and rapidly changed it into an effervescent liquid. This was powerfully whirled about with the iron by the stream of pig iron, and evidently also by the influence of the resultant reactions, whereby spontaneously a quite intimate mixture of the reagents was set up, which considerably assisted the reaction, . The experiments were conducted with pig irons